

## ADAPTIVE TRAIN MODEL

## ABSTRACT OF THE DISCLOSURE

An adaptive train model (ATM) for predicting train consist reactions to specific stimuli using a system including at least one measurement sensor located on the train consist, a data base, and a computer. The ATM collects sensor data as the consist is moving, determines a consist force balance utilizing the sensor data and the  
5 computer, determines a set of consist coefficients using the computer, and predicts train consist kinetic characteristic values using the consist force balance and the set of consist coefficients.